# Locks and Dams 2, 3, and 4 Monongahela River (Lower Mon)



New Braddock Dam River Mile 11.3 Replaced dam originally built in 1906 Braddock, PA



Existing Locks and Dam 3 River Mile 23.8 Originally built in 1907 Elizabeth, PA



Existing Lock and Dam 4
River Mile 41.5
Originally built in 1936
Charleroi, PA

### **General Information**

• Authorization: WRDA 1992 – Major features: Braddock-Gated Dam, Charleroi-Twin 84x720 Lock Chambers, Pool Dredging, L/D 3-Removal, and Relocations

	As Authorized	Current
Project Cost	\$750 M Fully funded	\$2.7 Billion Fully funded *1
Project Completed	2004	2060's *1
Funding Received	NA	\$628.7 M (thru 31Dec2014)

<sup>\*1.</sup> Project has been significantly underfunded to achieve an efficient construction schedule also impacting the total project cost.

### Features of work completed

- Braddock Upper Guard Wall
- Braddock Dam and Abutment
- Flow control dikes at both Braddock and Charleroi
- Charleroi Site Development (buildings, access bridge and road, parking areas, fencing, utilities, etc...)
- River Chamber Demolition
- Multiple Municipal Relocations
- Portions of the Charleroi River Chamber

### Ongoing Major Construction – All on Schedule

- Charleroi River Wall (Substantially completed)
- Charleroi Emptying Basin
- Charleroi River Chamber M22-M27

## Projected Near Term Construction:

Charleroi River Chamber Completion – Expected advertisement June 2015

### Risks:

- Locks and Dam 4 Charleroi
  - Lockwalls founded on timber piles wall movement
  - o Downstream guide wall beyond capacity
  - Only one operational lock chamber (Age 79 years)
  - o Serviceability wall anchorages (wall armor, corner protection, etc...)
  - o Resource constraints of piecemealing construction (batch plant, work area, etc...)
  - o DSAC II Dam Stilling basin inadequate
- Locks and Dam 3 Elizabeth (Age 108 years)
  - Primary lock's filling and emptying flume is structurally deficient both roof and walls have severely deteriorated concrete
  - o Auxiliary lock's components are on poor condition and are subject to frequent failure
  - o DSAC I Dam repair in 2007-2008 expected to last 5-10 years

## Remaining work (Funding dependent for timing and scope):

- Charleroi River Chamber Completion (primary focus)
- Pool 3 Dredging
- Locks and Dam 3 Removal \$\$\$\$\$ BENEFITS
- Multiple Municipal Relocations
- Port Perry Rail Road Bridge Relocation
- Charleroi Land Chamber

#### Pool Changes:

- Pool 2 The current operating pool between Braddock Locks and Dam (L/D) and L/D 3 is 721.8, being held 3.1 feet above the normal operating pool to reduce hydrostatic loads on L/D 3.
- Pool 3 Pool 3 cannot be lowered until a new River chamber is operational at Charleroi, pool 3 dredging is completed, and L/D 3 is removed.